

PRINTERS & SCANNERS

FAQ

Q Why does my laser printer take longer to start printing after it has entered sleep mode?

A Laser printers create an image by bonding a coloured toner powder on to the page. This is done by passing the paper and toner through a heated roller, called the fuser, just before it leaves the printer, which is why freshly printed paper feels warm. Much of the power consumed by a laser printer goes into maintaining the fuser at a high enough temperature to do this, so the heat is switched off when the printer enters sleep mode.

The fuser may be totally cold by the time you next send a print job, and it takes most printers at least 20 seconds to heat it up again.

However, some modern printers such as Canon's LBP-5300 (reviewed on the opposite page) use lower temperatures and a fuser design that can heat up again quickly. These printers switch off the fuser after each printing job, thus helping to conserve energy with no loss of performance.

Simon Handby
Printers and audio expert

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XEROX Phaser 6180N

★★★★

£309 inc VAT

Xerox's Phaser 6180N arrived too late to make it into last month's colour laser printer Labs test. At £309, it would have been just over the average for the group, but as we went to press it was available for a special offer price of just £234 including VAT from www.printerbase.co.uk.

Even at its usual selling price, the 6180N is good value. It's a single-pass printer, capable of delivering colour pages almost as quickly as black only. It has a standard network interface and supports PostScript 3 and PCL 6 print languages. Its 250-sheet paper cassette and a 150-sheet multipurpose feed should be plenty for most home users, but the available options include a 550-sheet cassette and a duplex unit. The printer's 60,000-page duty cycle is impressive at this price.

Xerox supplies the Phaser 6180N with standard-capacity cartridges that are good for 3,000 mono pages, or 2,000 in colour. This is reasonable, and they can be replaced with high-capacity cartridges that last for 8,000 black pages or 6,000 in colour. Using these, the 6180 has competitive running costs, though it's some way behind Dell's Colour Laser Printer 3110cn.

Though tall, the 6180N is smart and easy to set up. There's lots of packing tape to remove, but the toners slot in neatly. Once set up, switched on and connected to the network, it prints a configuration report. Xerox's install program found the 6180N on our network, installed the PostScript driver and offered to print a test page.

You can manually choose to install the PCL driver at the same time, but after our print tests we wished we hadn't bothered. Our results showed a huge difference



between the output quality using the two drivers, with the PCL results far below what we'd expect from a colour laser. Printing colour graphics at the default settings was very fast for a printer at this price, but the results had clearly visible pixilation and flat, under-saturated colours. Even worse, black text wasn't strong black, and had visibly shaky outlines even at the Enhanced quality setting. Viewed under magnification, characters appeared to be formed from diagonal strokes that weren't perfectly aligned.

Fortunately, the 6180N's PostScript results were extremely good. Text was far blacker, with crisp outlines, and graphics were a massive improvement, with rich, accurate colours and precisely controlled

shading. Colour text was solid and easy to read, though our colour Normal test was slower at 8.1ppm. Photos were excellent, but the 6180N couldn't complete some of our high-resolution tests, suggesting a memory upgrade might be necessary for graphic design.

The Phaser 6180N is a capable and well-specified colour laser. It's affordable to run and is good value at its regular selling price, provided you don't mind sticking with the PostScript driver. If you can find it at the offer price of £234, however, it's even better value and is our Budget Buy recommendation.

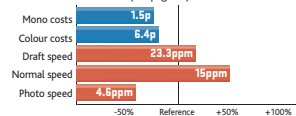
Simon Handby

SUMMARY

- ✓ Excellent PostScript printing
- ✓ Prints text, standard graphics fast
- ✗ Unimpressive PCL printing

COLOUR LASER PRINTER 25ppm mono/20ppm colour maximum speed, 600x600dpi resolution, USB and 10/100 Ethernet interfaces
PART CODE 6180V_N
SUPPLIER www.printerbase.co.uk
DETAILS www.xerox.co.uk

PERFORMANCE (see page 56)



Also consider...

SAMSUNG ML-2510

★★★★★

£67 inc VAT

PRICE CUT!



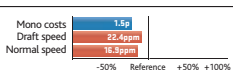
This grey laser printer may look a little drab, but



it's easy to set up and quick to install. It has a 250-sheet covered input tray and a single-sheet multipurpose feed slot, but it crumples envelopes.

The ML-2510 peaked at 22.7ppm when printing text, which is impressive for such an affordable printer. It's also cheap to run, with a cost per page of around 1.5p, yet produces high-quality text and mono graphics. It's a great compact budget mono laser.

MONO LASER PRINTER 1,200x600dpi resolution, 24ppm maximum speed, parallel and USB Hi-Speed interfaces
PART CODE ML-2510
SUPPLIER <http://uk.insight.com>
DETAILS www.samsung.co.uk
✓ Fast; affordable to buy and run; good print quality
FULL REVIEW Oct 2006



DELL Multifunction Laser Printer 1815dn

★★★★★

£286 inc VAT

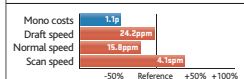


Dell's Multifunction Laser Printer 1815dn

can scan in colour and make black-and-white prints and copies. It has a standard network interface and can print on both sides of a sheet of paper automatically. It produces sharp scans, high-quality text documents and decent copies, though they can be a little too dark. It's fast, easy to use and cheap to run, so it's ideal for a busy office.



MONO LASER MULTIFUNCTION PERIPHERAL 600x600dpi print resolution, 600x1,200dpi scan resolution, USB and 10/100 Ethernet interfaces
SUPPLIER Dell 0879 075818
DETAILS www.dell.co.uk
✓ Fast; cheap to run
✗ Dark PostScript prints
FULL REVIEW Nov 2006



CANON i-SENSYS LBP5300



£653 inc VAT

Like the Xerox Phaser reviewed opposite, Canon's i-SENSYS LBP5300 is a fast, single-pass colour laser printer. You can connect it directly to a single computer using USB, or use its network port to share it between users.

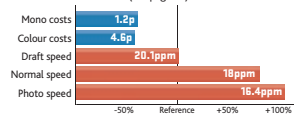
Unlike the Phaser 6180N, the LBP5300 prints only using a host-based driver. At this price, we'd normally expect a printer to support both PCL and PostScript print languages. The LBP5300's 250-sheet input cassette and 100-sheet multipurpose feed also seem basic for the money, but the printer has a duplex unit so it can automatically print on both sides of each sheet of paper. It's a useful feature if you want to save on paper or print long booklets with the minimum of fuss, but we've seen it on cheaper printers, such as Lexmark's C530dn, which we reviewed in last month's colour laser Labs test.

SUMMARY

- Fast colour and duplex printing
- Poor colour print quality
- Expensive

COLOUR LASER PRINTER 21ppm mono/
colour maximum speed, 600x600dpi
resolution, USB Hi-Speed and 10/100
Ethernet interfaces
PART CODE 13148013
SUPPLIER www.morecomputers.co.uk
DETAILS www.canon.co.uk

PERFORMANCE (see page 56)



For a bulky colour laser printer, the LBP5300 is easy to unpack and set up. Canon's install program offers a choice of an Easy or Custom install, but the full software package comprises only a driver and user manual. Setup found the printer on our network and, other than a couple of dire-sounding warnings about our firewall settings, completed without incident. The print driver's layout will be familiar to anyone who has used a recent Canon inkjet, with the options logically split into four themed groups, each of which is displayed on a separate tab. The job-status monitor is particularly useful for a network printer that might be positioned in another room to the user, but we had to disable the shrill sound it played at the completion of each job.

Although Canon claims comparatively modest speeds for the LBP5300, it was able to get unusually close to them in our tests. This was particularly true for colour, where the printer's 18ppm on our Normal test was way ahead of the fastest printers tested last month. Photos also printed very quickly, with six 6x4in photos on three A4 pages taking just 25 seconds. Unfortunately, this speed appears to come at the cost of print quality. Colour photos suffered from a sickly, yellow-green pallor that had us worried for the health of our portrait subjects, and most other graphics were woefully off-colour. Black text, at least, was extremely good, with dark, crisp fonts right down to tiny two-point size.

We were impressed with the LBP5300's speed when duplex printing. It delivered our 50-page Draft test in two minutes and 33 seconds, printing it on 25 sheets of paper at a rate of 19.6 sides per minute. It's unusual for a printer to match its single-sided performance when printing both sides, and the LBP5300 is the first



printer we've tested that practically achieves this. It's also fairly quick to start printing after a long period of inactivity, with a page of black text appearing within 18 seconds after the printer was left unused for a day. That's only six seconds longer than the same test took when the printer had been recently used.

The LBP5300's paper cassette is extravagantly labelled with directions for loading paper and clearing jams, but the icon representing the correct orientation is stamped into its metal base and is baffling. Fortunately though, the multipurpose tray is labelled clearly for paper and envelopes. The printer feeds envelopes very slowly, and prints them perfectly without any crumpling at all.

Canon supplies the LBP5300 with full-capacity toner cartridges, each of which is rated for 6,000 pages. This is generous, and reasonably priced replacements mean this printer will prove fairly cheap to own over the medium and long term, but not for very light use. This is encouraging, but it's not enough to offset the printer's comparatively basic specification and poor colour print quality. We can't recommend it at this price.

Simon Handby

EPSON Perfection 4490 Photo

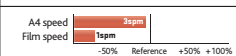


£130 inc VAT



Epson's Perfection 4490 Photo has a high optical resolution and comes with a decent software bundle. It can capture 35mm or 120mm medium format films, and has Kodak's Digital ICE dust reduction, though this didn't work well. Its focus is sharper than most flatbed scanners, and it produced great film scans. Its price has dropped since our original review, making it excellent value.

FLATBED SCANNER
4,800x9,600dpi optical
resolution, 48-bit colour depth,
transparency adaptor, USB
Hi-Speed interface
PART CODE B11B176022
SUPPLIER www.amazon.co.uk
DETAILS www.epson.co.uk
 Excellent film scanner
 Ineffective dust reduction
FULL REVIEW Nov 2006



KONICA MINOLTA Magicolor 2500W



£171 inc VAT

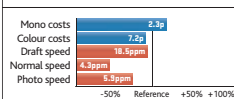


The Magicolor 2500W is one of the cheapest colour lasers, but it gets all the essentials right.

It's compact, easy to set up and use, and produces good-quality prints. With basic paper handling and no scope for upgrades, it isn't suitable for demanding users, but home users will find it great value.



COLOUR LASER PRINTER
600x600dpi resolution, 20ppm
mono/5ppm colour maximum
speed, USB Hi-Speed interface
PART CODE A00V021
SUPPLIER www.printerbase.co.uk
DETAILS www.konicaminolta.com
 Affordable, good print quality
 Basic paper handling
FULL REVIEW May 2007



HP Photosmart D7160



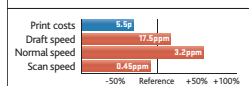
£81 inc VAT



HP's Photosmart D7160 costs less now than it did when it won our Best Buy award. It doesn't produce the best photo quality we've seen, but it's fast, affordable and easy to use. It's equally happy reeling off A4 pages of high-quality text or printing photos directly from a memory card.

We don't think it's worth paying extra for the touch-screen-equipped D7360 when the D7160 is this good.

A4 PHOTO INKJET Six-colour
inkjet, 4,800x1,200dpi
resolution, USB Hi-Speed and
PictBridge USB interfaces
PART CODE Q7047B
SUPPLIER www.amazon.co.uk
DETAILS www.hp.co.uk
 Cheap to buy and run; easy
to use FULL REVIEW Jan 2007



PLUSTEK SmartOffice PL806

★★★★

£170 inc VAT

Plustek's SmartOffice PL806 is an A4 flatbed scanner with a 50-sheet automatic document feeder (ADF). With a maximum optical resolution of only 600dpi, it's designed for scanning and archiving office documents rather than more creative home projects. There's no transparency backlight, so it can't scan film originals.

The PL806 is a rather bulky scanner, arranged widthways with its lid hinged at the back. Its ADF is supported by two clip-in plastic struts, both of which had shot out of our test unit and needed to be refitted. The front panel has five short-cut buttons, for one-touch scanning to applications such as the supplied optical character recognition (OCR) software, or for sending direct copies via your PC to a printer. It's easy to open the lid, and the extending hinge design allows you to close the top flat on a thick original such as a book.

By loading multiple sheets into the ADF, you can make an automated scan of multiple pages. Few image-editing programs will support this, but the PL806 comes with Presto! PageManager 6, which does. It doesn't have a particularly slick user interface, but we found our way around it after a little trial and error. We scanned 15 A4 pages that were printed on both sides. The PL806 scans one side at a time, so we re-fed the pages through. At 300dpi, each set of 15 scans took around two minutes and 20 seconds, but PageManager has no option to interleave the results and restore the correct page order. You can do this manually before exporting the



results to a single PDF, but it would be time-consuming for a longer document.

The PL806 is quick and its scan quality is more than adequate for capturing office documents. Exposure was even across the whole of our test A4 scans and the captured colours were faithful to the original. At the scanner's maximum resolution we could see that images weren't perfectly focused, but at more typical resolutions of 75, 150 and 300dpi they appeared crisp enough. Surprisingly, given the scanner's target market, it produced a very good 600dpi scan of our test photo.

PageManager includes a de-skew option to correct the alignment of any pages that don't pass perfectly straight through the scanner, but it misread one straight page and rotated it by about 30 degrees. The documents it exported to

PDF format were quite low resolution and had some visible compression artefacts.

This concern aside, the SmartOffice PL806 is a useful document scanner costing less than faster, duplex-scanning rivals such as Fujitsu's ScanSnap range. However, it's about the same price as an entry-level, ADF-equipped laser multifunction peripheral, which would be a better choice if you're also looking for a printer.

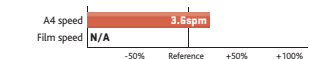
Simon Handby

SUMMARY

- ✓ Easy to use
- ✓ Good scan quality
- ✗ Expensive

A4 FLATBED SCANNER 600x600dpi optical resolution, 48-bit colour depth, USB Hi-Speed interface
PART CODE PL806
SUPPLIER www.jessops.com
DETAILS www.plustek.com/uk

PERFORMANCE (see page 56)



CHOOSING A... Multi Function Peripheral

Follow the steps to find your ideal specs

PRINT TECHNOLOGY: Inkjet
PRINT RESOLUTION: 4,800x1,200dpi
SCAN RESOLUTION: 600x2,400dpi
INTERFACES: USB
EXTRA:

Recommended minimum in grey

A multifunction peripheral combines a printer and scanner into a single compact unit, and also provides copying and fax facilities. This saves desk space and also money, compared with buying two or more separate devices.

1 Basic models cost as little as £40 including VAT, with specifications similar to those shown in grey above. These are OK if funds and space are tight, but quality and speed will be basic, and copying and faxing may not be possible without the help of the PC.

2 Spending more invariably gives you improved speed and image quality. These improvements aren't directly proportional to price, though, so read our reviews for details. Remember that running costs can outweigh the price of the unit.

3 Sheet-fed scanners handle multiple pages but flatbeds tend to give better image quality. Cheaper models make you choose one or the other, while pricier units combine both features.

4 If you'll be using the printer regularly, consider a laser rather than an inkjet model. These benefit from improved print speeds and lower running costs, and cost from around £120 including VAT. You'll need to spend a lot more for a colour laser-based machine.

5 To make the most of the standalone functions, you'll want decent front-panel controls. These can vary from a single copy button to something resembling a dedicated copier. If fax is important, then you need to check the device has a built-in modem.

6 Other useful extras to consider are memory card slots, duplexing units for the printer and/or scanner, additional paper trays and an Ethernet port to connect the device to a network.

Also consider...

CANON PIXMA iP4300

★★★★★

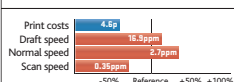
£59 inc VAT

BEST BUY If you need a budget printer, Canon's PIXMA



iP4300 shows that you don't need to compromise on quality. It has two paper trays, and can print on coated CDs or both sides of each sheet of paper. It's fast to produce text, colour graphics and photos. Print quality is high, with no trace of grain, though photos are a little bit oversaturated. Best of all, it has very low running costs.

INKJET PRINTER Five-colour inkjet, 9,600x2,400dpi maximum resolution, USB and PictBridge USB interfaces
PART CODE 1438B008AA
SUPPLIER www.scan.co.uk
DETAILS www.canon.co.uk
 ✓ Inexpensive; fast; flexible; stylish; high-quality results
FULL REVIEW Dec 2006



CANON PIXMA MP160

★★★★★

£42 inc VAT

BEST BUY The PIXMA MP160 costs less than many



budget inkjet printers, and it can also make good-quality scans and copies. It's compact and attractive and not too tricky to set up. Unusually for such an affordable printer, it has low running costs if you use Canon's high-capacity ink cartridges. It's great value if you just want a basic multifunction peripheral.

FOUR-COLOUR INKJET MFP 4,800x1,200dpi print resolution, 600x1,200dpi scan resolution, USB Hi-Speed and PictBridge USB interfaces
PART CODE 1447B008AA
SUPPLIER www.amazon.co.uk
DETAILS www.canon.co.uk
 ✓ Affordable; good results
 ✗ No card reader
FULL REVIEW Jan 2007

